

D 2410

Anti Poaching Strategy
Royal Chitwan National Park
Kasara, Chitwan

2003

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Forward

Department of National Parks and Wildlife Conservation has established an extensive network of Protected Area system, covering more than 20% of the total area of Nepal. Royal Chitwan National Park (RCNP) was established as the first national park of Nepal in 1973, and is one of the world Heritage sites in the country.

The conservation of rhinoceros in Chitwan represents one of the remarkable success stories of wildlife conservation in the world. The population has reached above 544 in Chitwan in 2001 as compared to less than 100 in 1973, when the area was gazetted as national park. In addition, the Department has established a second viable rhino population in Royal Bardia National Park, and initiated a translocation program for the third population in Royal Suklaphanta Wildlife Reserve. The initiative is in collaboration with King Mahendra Trust for Nature Conservation and WWF Nepal Program.

Despite our successful history and Anti poaching efforts, protection of this animal in RCNP is a major challenge. Poaching of the animal is posing a threat for the long- term survival of this endangered species. A strategy to combat poaching is prerequisite at present.

I am glad to present this strategy to strengthen our effort to combat poaching of rhino in RCNP. Although the strategy has been prepared with a focus on the rhinoceros of RCNP, however, this is equally useful for other illegal activities and for other PAs also. Mr. Shiv Raj Bhatta Planning Officer of DNPWC and Mr. Shankar Karki, Assistant Battalion Commander, Devi Datta Battalion Kasara were appointed for the preparation of this document. My special thanks goes to Mr. Bhatta and Mr. Karki. I would also like to thank Mr. Narayan Poudel, Deputy Director General and Mr. Shayam Bajimaya, ecologist for their guidance to initiate the strategy. I am thankful to personnel of the Devi Datta Battalion of Royal Nepali Army, staff members of Royal Chitwan National Park

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Tirtha Man Makey, Ph. D.
Director General

Introduction

The rapid growth and spread of human population has led to the gradual elimination of many large mammals from their historical range in the past, the principle reason being loss and fragmentation of potential habitats. Wildlife habitat deteriorated so rapidly in 1950s and 60s that Nepal witnessed a colossal loss in its wildlife, especially the large mammals. The conversion of forest into other land-use-system have constricted and fragmented wildlife habitat and threatened the life support system of many species.

Massive poaching decreased population of many species. Worldwide illegal trade in wildlife and their derivatives is worth several billion dollars (Aryal, 1995). Rhino, tiger, leopard, deer, otter, reptiles and birds are being poached for different purposes. Demand of rhino horn in the world market has put great threat to this endangered species since the establishment of protected areas. It is believed that the rhino horn posses aphrodisiac qualities.

Several efforts have been made to control poaching in the past. Poaching of wildlife and rhino in particular in recent years has put a great threat for the survival of this species. This poses a major challenge for the park management these days.

From 1998 to 2002 altogether 66 rhinos were poached (annual reports DNPWC). The increasing trend of poaching is a great threat for the survival of species. Considering these indications, an Anti poaching Unit (APU) review meeting was held in DNPWC on March 8, 1998 in which DNPWC invited conservation partners who are providing support to APU (WWF, ITNC, KMTNC etc.). During the meeting WWF, delivered 12 Motorola Radio sets for RCNP. The revision of incentive rates, need of vehicle, sustainability of APU were the major concern of the meeting (Maskey 1998).

Despite several efforts of park staffs, RNA and conservation partners, rhino poaching in RCNP could never be fully controlled. Stakeholders meeting held in RCNP in 1999 decided to prepare a strategy to combat poaching of rhino. The record shows that the

Poaching of rhino increased in 2000 and 2001. Another stakeholders meeting held in 2002 again recommended immediately to come up with a realistic strategy to combat poaching in Chitwan.

This document is an attempt to compile and analyze the trend of poaching incidents since the establishment of the park, assess past and present of anti-poaching measures and to recommend strategy with immediate, short-term and long-term action program to combat poaching in RCNP.

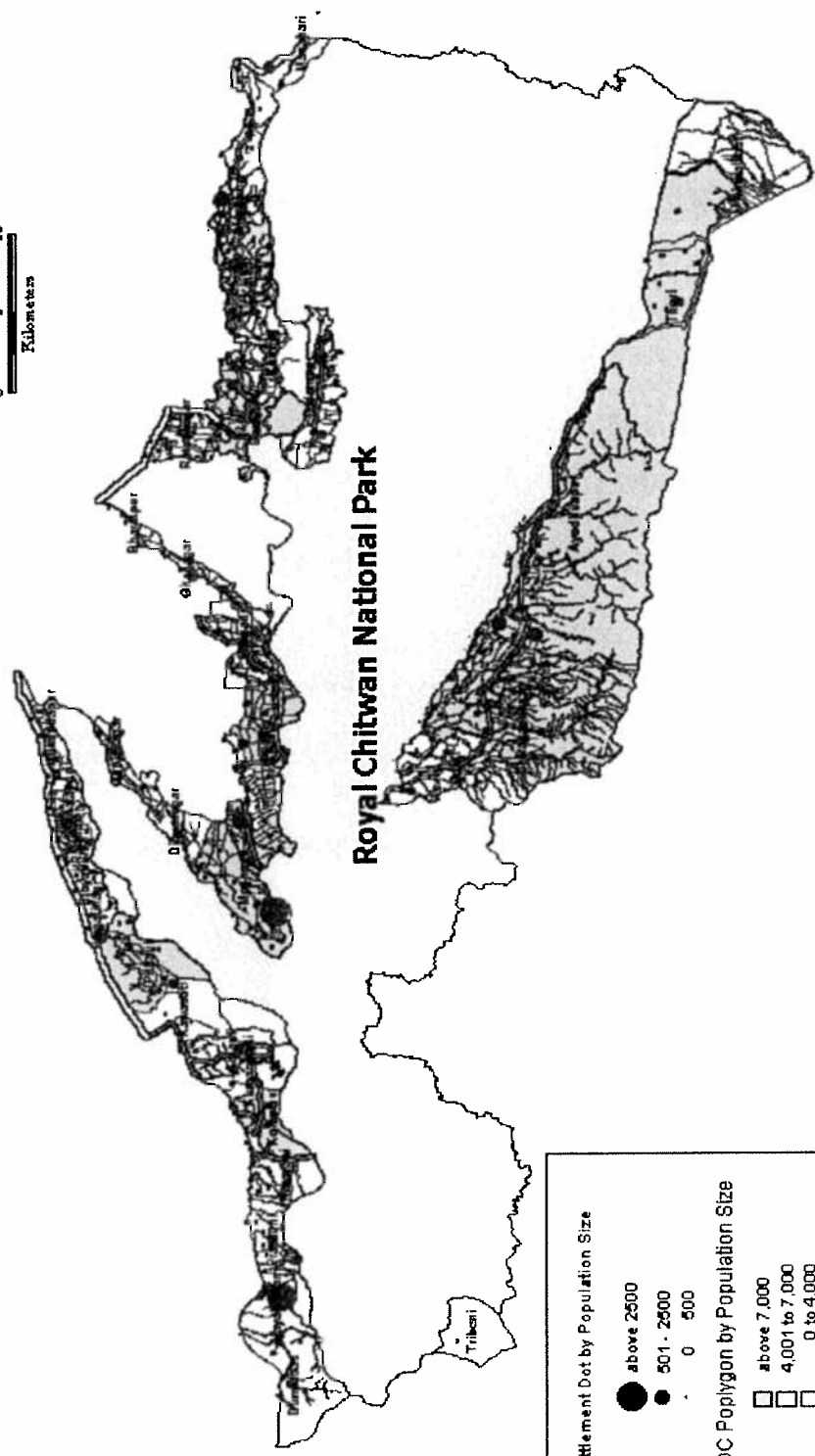
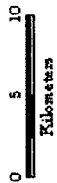
2. Background

Poaching of wildlife started long before the protected areas were gazetted. People used to kill animal for meat, medicine and recreational purpose in the past. The rise in price of rhino horn, tiger bone and skin and musk pod in the international market intensified poaching. The densely forested lowland Terai of Nepal was famous for elephant, rhino and tiger, therefore, a paradise for big game hunting. During the Rana regime (1846–1950), royalties from Europe used to come to Nepal for big game hunting. The richness of Chitwan can be seen by looking at the animals killed by one of the hunting party; tigers 120, 38 rhinos, 27 leopards and 15 bears (DNPWC 1998).

The Chitwan Valley is situated on the south of Central Terai (Map 1). Within this valley, the Royal Chitwan National Park (RCNP) is located in the southern corner, and some part of its southern border is linked with the Balmiki Tiger Reserve, Bihar, India. The park was gazetted in 1973 and enlisted as a World Heritage Site in 1984. It covers an area of 932 sq. km. The park consists of the tall grasslands (20%); 70% Sal forest (*Shorea robusta*); riverine forest, and Churia hill forest and a number of ox-bow lakes and others. Narayani, Rapti and Reu are main rivers flowing along the park boundary. More than 50 species of mammals, 525 species of birds and 55 species of amphibian and reptiles, and 120 species of butterfly have been recorded so far in the park. Minimum of 60 breeding tigers were recorded in the park in 2001 (Bhatta, et. al 2002). The park is one of the major tourist destinations of Nepal. Over hundred thousand tourists visit annually in the park for wildlife viewing.

In Nepal, rhinoceros population was estimated at about 1,000 animals in Chitwan Valley until 1950. The valley was well protected by the then ruling Ranas for their hunting purposes. After a visit to Europe Jung B. Rana made legal changes in which a provision was made to fine Rs. 200 for rhino poaching (Tiwari 2002). The area was also protected from outsiders due to the fear of malaria prevalent in the valley. Only few communities

Map 1 Royal Chitwan National Park Settlement by Buffer Zone VDC



Settlement Dot by Population Size

- above 2500
- 501 - 2500
- 0 - 500

VDC Polygon by Population Size

- above 7,000
- 4,001 to 7,000
- 0 to 4,000

- High Way
- Motorable
- Track
- River/ Khola

including the indigenous Tharus were known to be immune to malaria and resided in the valley. At that time, their impact on valley's natural resources was minimal.

Immediately, after Rana regime HMG initiated malaria eradication program with the financial support of USAID in 1954. The fall of Rana regime and eradication of malaria opened up the valley for outsiders.

After the eradication of Malaria, too many hill people migrated in the fertile Chitwan valley. According to an estimate made by USAID, the population rose between 36,000 to 100,000 from 1950 to 1960 respectively (Gurung 1983). Till 1970, the settlers cleared about 70% forest of the Valley forever. Poaching was rampant. The settlers poisoned tiger to save domestic animals and the Indian and Nepalese poachers shot rhinos illegally to trade horns and hoofs for more than a decade. The population of rhinos declined drastically. In 1968, it is estimated that around 100 rhinos remained in the Valley (Spillett and Tamang 1966, in Martin and Vigne 1995). Wild buffaloes (*Bubalis bubalis*) and swamp deer (*Cervus duvauceli*) have been extinct from the valley during 1960's (Gurung 1983).

The new settlers not only caused habitat loss and poached animals, but also transferred foot and mouth diseases to ungulates through their domestic animals and they killed more than 100 Indian bison (*Bos gaurus*) in the Valley. The tiger's population was also affected by habitat loss, destruction, disturbances, and poisoning. The rhinoceros population dropped down to less than 100 individuals during late 1960s.

Part of the Chitwan forest was clear-felled to provide railways sleepers during the period in which 200,000 railways sleepers were given to British from Eastern Nepal and Chitwan. (Tiwari 2002).

Realizing the rapid decline in rhinoceros population, HMG-Nepal established "Gaında Gasti" or Rhino patrol Unit in 1961 and then declared remaining prime rhino habitats of about 544 sq km along Rapti, Narayani and Reu rivers as Royal Chitwan National Park (RCNP). In 1970, a field office of the Royal Chitwan National Park was established at Kashara, the present Park Headquarter of RCNP. The park was officially gazetted in 1973, as the first national park of Nepal. After establishment of park, staffs of DNPWC and RNA jointly started to protect and manage the park (Map 2).

After the successful effort of Department of National Parks and Wildlife Conservation (DNPWC), the RNA and other conservation partners, population of rhinoceros started to increase gradually. Investigations revealed that the population had increased to 270-310 individuals by 1975 with 73 (32.3%) adult females, 45 (19.9%) adult males, 48 (21.2%) sub adults and 60 (26.6%) calves (Laurie 1978). By 1988, the population reached to a total of 358 individuals (Dinerstein and Price 1991). Due to control of poaching and habitat destruction recruitment of rhinos made possible to start to establish new population in Bardia (Khan ed. 1989). The increase in rhino number since the late 1960's demonstrate that population can rebound vigorously if provided with sufficient habitat and protection.

In 1994, DNPWC in collaboration with Resources Nepal and KMTNC and WWF launched a Count Rhino Program in Chitwan and estimated a maximum population size of 466 individual with the growing rate of 3.7 %. The population comprises 250 adult, 100 sub-adult, 2 unknown and 114 young (Yonzon 1994).

In 2000 the Department of National Parks and Wildlife Conservation in collaboration with KMTNC and WWF Nepal counted a total of 544 individuals in and around the Royal Chitwan National Park. Among the direct counted 544 individuals in Chitwan, 332 were adults, 87 sub-adult and 117 calf were identified. Likewise, in Bardia, a total of 67 rhinos were counted. Among them 38 were adults, 20 sub adults and 9 calf were identified (DNPWC 2000).

Because of comparatively good record keeping of rhino and few cases of poaching of other wild animals (Annex 1), rhino has been taken as a focal species for the development of this strategy. Nevertheless, the strategy has equally taken other species in consideration and thus is useful for other species and other park as well.

3. Goal and Objectives

The over all goal of the strategy is to control all illegal activities in the park and its buffer zone. The specific objectives of the strategy are:

- To increase awareness of local people regarding wildlife crime
- To enhance coordination among concerning agencies
- To establish a strong Information networking
- To strengthen capacity of RCNP, RNA staff and BZ institutions to control poaching
- To equip RCNP to conduct anti poaching operation
- To establish anti poaching database

4. An overview of Poaching and anti-poaching activities

This document has tried to compile and analyze rhino poaching, assess past and present of anti-poaching measures and to recommend strategy for immediate, short-term and long-term action program to combat poaching in RCNP.

4.1 Methodology

The strategy has been prepared by using following methodology

- Review of draft APU strategy of 1999
- Review of existing AP operations system of RCNP
- Assess strength and weakness of existing system:
- Interaction with staff of Park, RNA and conservation partners
- 2 Consultative workshop in Chitwan involving all stakeholder
- Consultations/interviews of key respondents
- Review of the draft by national park and the protection unit of RNA
- Presentation of the draft policy in 19th Warden Seminar
- Presentation of draft in a workshop of different stakeholder in Kathmandu
- Incorporation of suggestions of above mentioned stakeholders

4.1.1 The National Legislation for Wildlife Protection

Some sort of provision to control wildlife poaching had begun long before the establishment of the protected area. After a visit to Europe Jang B. Rana made legal changes to control rhino poaching. Similarly, the Muluki Ain 1992 bans the cutting of trees in the forest corridors of elephant and rhino. In 1957, HMG formed a Wildlife Protection Act, especially for the protection of rhino and its habitat. Furthermore, in 1973, the National Park and Wildlife Conservation Act (NPWCA) came in to effect and provided legal authority to the warden to protect the wildlife and their habitat within Parks and Reserves. From 1973 to 1993, it has been amended four times to make it more effective. The NPWC Act 1972, states "offenders dealing in poaching and illegal trade of endangered wildlife species and their body parts can get a stiff penalty of 5 to 15 years jail or Rupees 50,000 to 1,00,000 in fine, or both".

The Department of National Parks and Wildlife Conservation is a member of the Convention on International Trade of Endangered Species of Fauna and Flora (CITES). Although there is not yet a CITES regulation, DNPWC has established a CITES unit and initiated coordination meetings with concerned stakeholders. A CITES bill has also been submitted to HMG for approval.

4.1.2 Protection Measures

Rana rulers had also given priority to the protection of rhino and tigers. An armed rhino-patrol unit (*Gaida gasti*) was formed with its Headquarter at Tikauli, Chitwan in 1969, which was especially formed to protect rhino. After that, the unit patrolled most part of Chitwan, Nawalparashi, and Bardia districts, where population of rhino and tiger was high.

Although the *Gaida Gasti* carried out patrolling within the park in the beginning, the unit of Gaida Gasti did not have enough staff to patrol in the whole of the park. Therefore, poaching of rhino and tiger continued in the park. After RNA took the responsibility of protection of the park, Gaida Gasti was shifted in the national forests outside the park and under the jurisdiction of District Forest Office (DFO), where they were actively involved in protection of rhino and tiger. The protection work became effective after the deployment of RNA in the park.

The involvement of Royal family in conservation of the country's flora and fauna is commendable. Late King Mahendra, Late King Birendra and His Majesty King Gyanandra Bir Bikram Shaha Dev with their Royal patronage and gracious guidance has made it possible for the remarkable success in the conservation of biodiversity of the country.

In 1993, the Gaida Gasti was merged with forest guards named as armed forest guards and were given more responsibility to protect forest rather than wildlife species (Maskey 1998). Recently this troop has been given responsibility to train forest guards, which also have reduced their attention to poaching of wildlife in the buffer zone and national forest.

4.1.3 Trend of Wildlife Poaching

Fig. 1 shows the trend of poaching in Chitwan Valley. With the establishment of national parks and the involvement of RNA in the protection system, poaching decreased for a couple of years. From 1976 to 1983, poaching was stopped in the park. From 1984 onwards poachers became active again. The anti poaching efforts revitalized in early 90s again helped to control poaching to some extent. This again could not sustain the success and the poaching of rhino after 1998 increased at an alarming rate, which has become a major concern for the park management.

Fig1. Rhino Poaching Status in Royal Chitwan National Park



It is clear to see that in these years, poaching of rhino in buffer zone gradually shifted in the core area (Table 1). Protection of buffer zone forest by community, higher chances of being noticed by local community may have resulted in the increase of poaching in the park.

Table 1. No. of rhino poached in core and buffer in different years

RCNP	1999/2000	2000/2001	2001/2002	2002/2003
Core	0	1	28	24
Buffer	6	6	5	3

4.1.4. Poaching techniques

The technique used for poaching depends on the target animal for poaching. Several methods such as pit fall, spear, snare, poison, electrocution and firearms are used. Some of the common methods used in Chitwan are:

Pit fall

This is a common method to kill rhino. Pit diggers make large rectangular pits across the path of a rhino and usually put small sticks, slashes and mud over the pit to cover and camouflage it. Mostly pitfalls are made in the defecating or urinating sites of rhino to make sure that rhino falls on it. This is a old technique of poaching. In 1992, poachers dug over 50 pits across the park, but only 14 rhinos were caught in the trap (DNPWC 1997).

Snares

Poachers use snares to kill deer. Though this technique though takes a long time to kill, it is also used for rhino. In 1992-93, poachers killed 3 rhinos in Bandarjhula Island using this technique.

Spears

Local people prefer spear either to kill or to drive foraging wild animals from the agricultural land. Poachers took advantage of this method to kill also in 1990-91 and speared two rhinos in Bagmara community forest and one in

Jayamangla inside the park.. This technique is not very relevant to kill rhino because rhino can run away even when the spear is lodged on its body. Most of the time poachers fail to follow the wounded rhino. In 1999, one adult male rhino was speared in Bagmara community forest. It came out in the open area close to Elephant Breeding Centre, Khorshor and the poachers could not take the horn.

Poison

Certain ethnic groups such as the Tharu, Tamang, Bote, Batar and Majhi poison fish, deer for meat and sometimes the rhino as well. In 1999, poachers killed more than 9 rhinos and three tigers using poison in RCNP and its buffer zone (Adhikari, et.al. 1999).

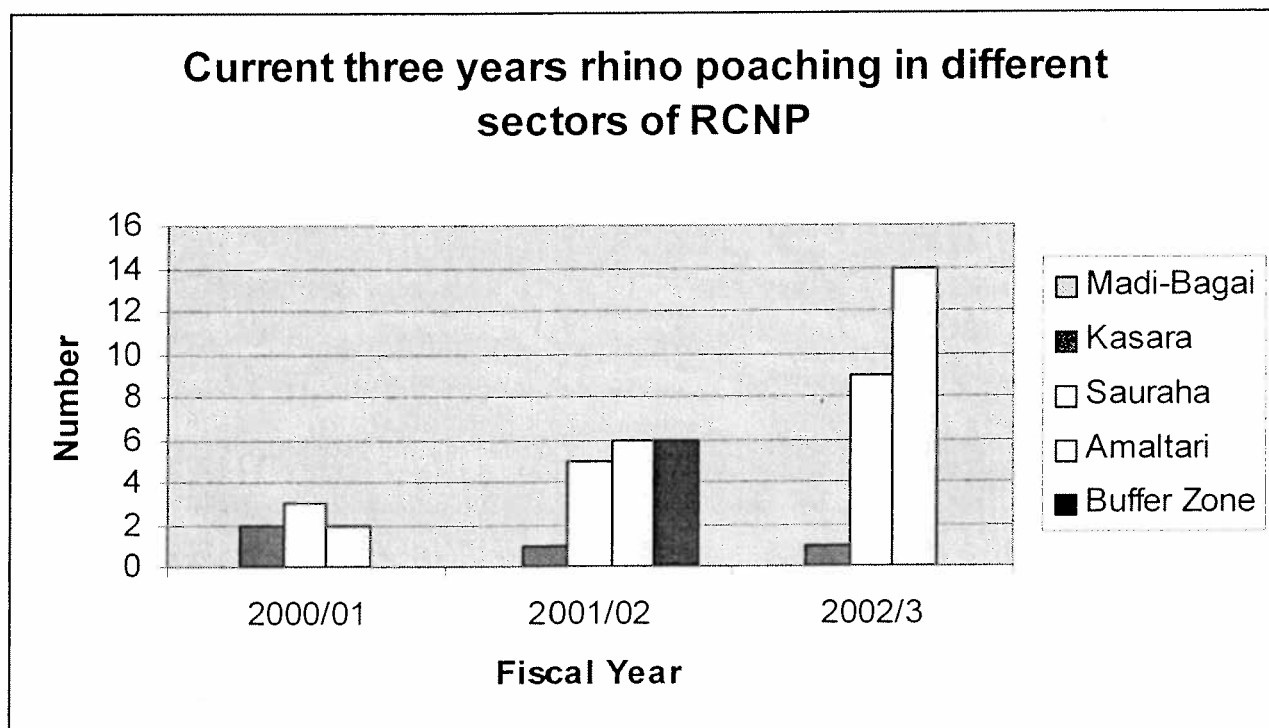
Firearms

Poachers also use firearms to kill deer and rhino. The home-made guns were common in the past but now they are equipped with modern and sophisticated firearms as well. Use of modern firearms three-nut-three has made the problem of poaching more challenging.

4.1.5 Poachers, poaching and "Hotspots"

Three different types of people are found to be involved in poaching activities, particularly for rhino, tiger and bear. As explained by Adhkari (in Adhkari et. al 1999), they include traders, mediator or middleman, and poachers. Usually, mediators contact the local people and encourage them to kill animals. Local people know the activities of park/protection units and the movement of animals. They are familiar with the areas where animals live and the secret routes as well. After poaching the wildlife, poacher hand over the valuable parts of animals to the middleman, who then smuggles the body parts to the city where traders live. Traders generally live in the towns or cities.

Figure 2. Current three year poaching in different sectors of RCNP



A look at the poaching incidents in the last three-year, Amaltari sector (Laukhani, Devital, Island resort area) and Sauraha sector (Khagandramali, Dumeria area) are the major hotspots (Fig 2). Western Sector and Eastern sector are highly vulnerable in comparison to Kasara and Madi-Bagai sectors. This may be due to the park and RNA headquarters located in the Kasara and comparatively lower population of rhino in the Madi-Bagai sector

Four Years Monthly Rhino Poaching Records of RCNP

2056-2059

		Nos of Rhino poached								
		1	2	3	4	5	6	7	8	9
Year / Month	Months									
2056	B									
	J									
	A									
	S									
	B									
	A									
	K									
	M									
	P									
	M									
	P									
	C									
2057	B									
	J									
	A									
	S									
	B									
	A									
	K									
	M									
	P									
	M									
	P									
	C									
2058	B									
	J									
	A									
	S									
	B									
	A									
	K									
	M									
	P									
	M									
	P									
	C									
2059	B									
	J									
	A									
	S									
	B									
	A									
	K									
	M									
	P									
	M									
	P									
	C									

Monthly Rhino Poached Records

2056-2059

		Nos of Rhino poached								
		1	2	3	4	5	6	7	8	9
Year / Month	Months									
Baishakh	2056									
	2057									
	2058									
	2059									
Jestha	2056									
	2057									
	2058									
	2059									
Ashad	2056									
	2057									
	2058									
	2059									
Shrawan	2056									
	2057									
	2058									
	2059									
Bhadra	2056									
	2057									
	2058									
	2059									
Ashwin	2056									
	2057									
	2058									
	2059									
Kartik	2056									
	2057									
	2058									
	2059									
Mangsir	2056									
	2057									
	2058									
	2059									
Poush	2056									
	2057									
	2058									
	2059									
Magh	2056									
	2057									
	2058									
	2059									
Phalgun	2056									
	2057									
	2058									
	2059									
Chaitra	2056									
	2057									
	2058									
	2059									

In order to find-out if there are preferred months for the poachers, the 4 year data was analyzed (Figure 3). The data shows Chaitra (Mid-March to mid-October) and Mangsir (November end) to Falgun (early March) as the peak season for poaching. The end of January to mid-February is the month during which there is highest poaching incident in the four-year. There are some months where there is no poaching in some year but Baishak (Mid-March to Mid-April) are the time with poaching incidents every year. Higher poaching in winter may be due to the increased visibility and concentration of rhino in open grasslands after grass cutting. Rainy seasons are difficult for poacher to find out rhino due to tall grass, but they take advantage of decreased mobility of the staff in rainy season.

Timing

Timing of shooting the rhino is generally between 7 to 10 AM in the morning and 1 to 4 pm in the afternoon. The incidents occur during the time of grazing near the waterhole and grassland. It takes half an hour to cut horn after killing the animal.

Season of Poaching

Mangsir to Jestha months are the peak months for poaching. There is relatively less poaching during Ashad to Kartik because of lack of visibility and it is difficult to find rhino easily due to tall grasses and fog.

Postmortem of the rhino

Mostly rhino is shot in the head (a bullet in case modern firearm and home made iron rod). The horn is cutout by a sharp knife.

4.1.6 Anti-poaching efforts in the Chitwan Valley

It is not possible to control poaching in the 932 sq. km. area of park and additional buffer zone area only by setting up different guard posts. Anti poaching is effective only if there is regular patrolling in the park and if they are highly mobile, gather reliable information and immediately

carry out operations. The following measures were adopted in RCNP to control poaching:

Establishment of protected areas and deployment of Park and RNA staff to protect national park itself shows the high priority of the Government and continuous effort to control poaching of wildlife. Additional programs to complement HMG efforts are mentioned below.

1973 Initiation of antipoaching program of "reward" system helped by then 'Flora and Fauna Preservation Society (FFPS)': Cash Reward of Rs. 2000 announced by Chief Warden for the person providing reliable information regarding poachers.

91-93 Antipoaching program of with "Informants" supported by 'International Trust fund for Nature Conservation (ITNC)': Paid informants were temporarily hired by the park to collect information

93-96 Antipoaching program with Antipoaching Units (APUs) supported by 'World Wildlife Fund for Nature Conservation' (WWF) and ITNC: HMG staffs Ranger organized to form APU. Provision of reward for good work. Detail of the APU is given in Annex 4. The APUs were formed to institutionalize the program.

96-2001 Anti poaching program with monthly staff incentive: Continuation of APUs formed as mentioned above with additional monthly incentive and a system of reward for good work. Reward included cash and Abrahm Conservation Award.

During 96-2001, the following improvements were also made by reviewing the APU mechanism with the support of WWF, KMTNC and ITNC:

The "best post" system

In addition to permanent APUs, staffs of any post performing best job in the month to be awarded by cash incentive equal to the staffs involved in the APUs. Criteria was made to evaluate the performance of best posts

Sweeping operations

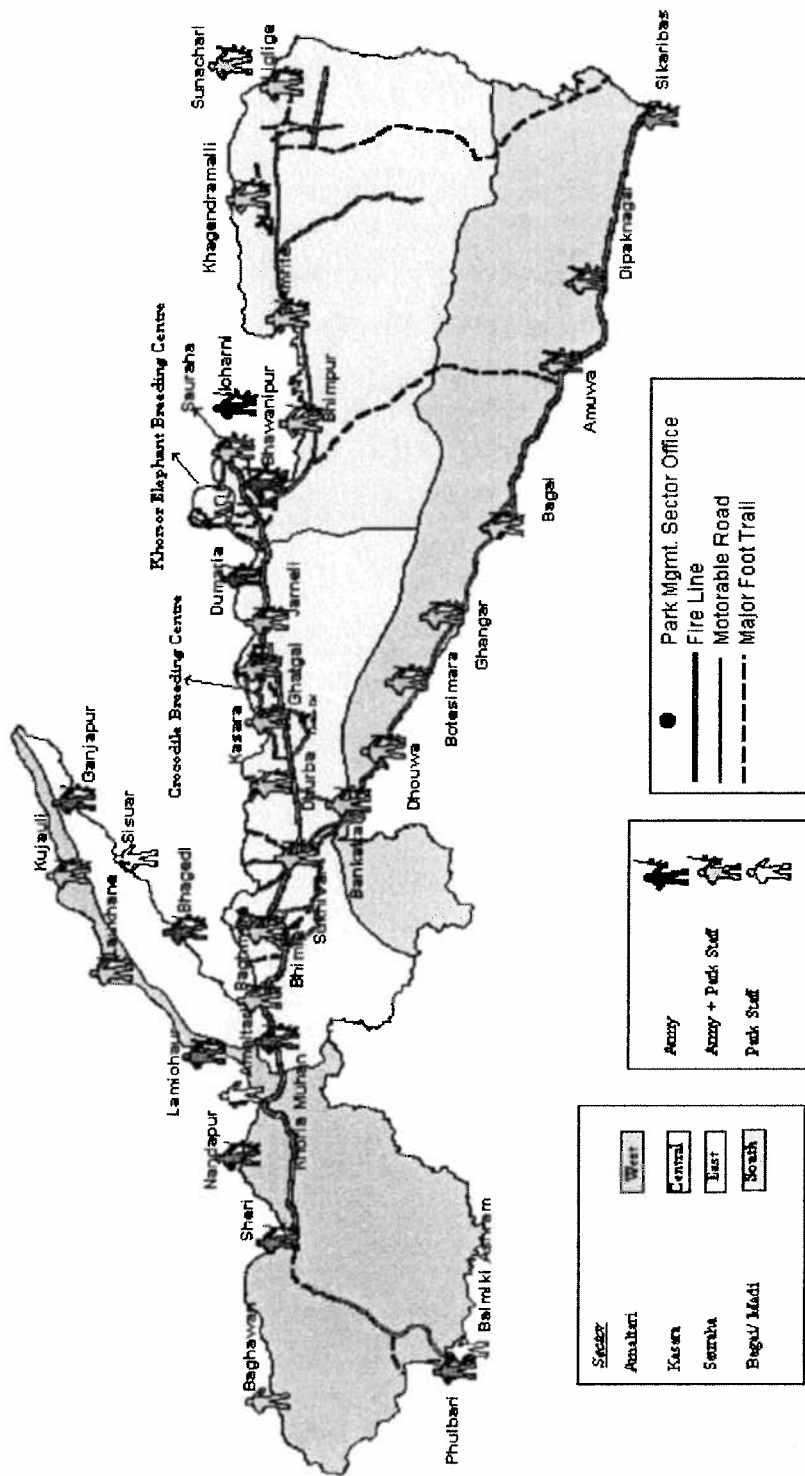
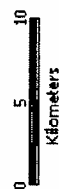
Sweeping operations were conducted in suspected areas. The sweeping team includes park staff, RNA staff and elephants, if necessary. The number of staff in the sweeping team varies on the basis of the location and information. The team is supplied with transportation and dry foods.

Mobile team

Two mobile teams (one for the core area and one for the buffer zone) have been identified. All actual expenses related to anti-poaching operation are to be charged to anti-poaching fund. The team are responsible to patrol target area regularly, contact informers, coordinate with staffs and take action (including covert operation). The team includes Park and RNA staff. One of the recommendations of the workshop was to prepare this strategy and apply immediately.

The informant network with a system of “reward” has proved effective in controlling poaching in Chitwan Valley. In 1973, when the warden of RCNP announced a cash reward of up to Rs. 2,000 for the information that leads to the capture of poacher with evidence or weapon, or rhino horns or parts and derivatives of endangered species. The reward notice was put in public places. The reward became effective and 17 rhino poachers were caught within 3 months. Poaching drastically decreased till 1984.

In order to sustain funding mechanism, the park requested budget for Anti-poaching operation from HMG. The budget was approved and released. But due to difficulties in HMG procedure, the mechanism of reward could not be sustained and the budget remained as it is (Adhikari et.al.1999). This could be the major reason behind increased poaching again after 1986.



After the 90s with the support of ITNC and WWF the Anti-poaching effort were revitalized again. Strengthened cooperation between the park staff and District Forest Office with the formation of APUs in both Park and DFO territory, and establishing a mechanism for regular contact, poaching was brought under control again.

Following a control of poaching, the transfer of experienced staff and the focus in the declaration and management of buffer zone, increased no. of Hotel staff in the park, and over fishing by local people around the park made it difficult for the park staff to monitor the illegal activities.

The RNA posts were located in 32 locations in this period (Map 2). Later due to the national political problem these guard posts were merged into 8 indicated in Map 3 are (Khagendramalli, Sauragha, Gajapur, Nandapur, Bhimle, Bankatta and the HQ Kasara). Insurgency, merge in the posts and other factors mentioned earlier provided good opportunity for poachers. In this period several effort, changes and improvements were made as mentioned earlier, however, due to insurgency, the merging of RNA posts, poor coordination and lack of adequate resources in hand of grass-roots staff poaching gradually increased. The trend of rhino poaching after 1998 is the single biggest threat to the survival of this endangered species.

Gradual revision in anti-poaching mechanism by increasing mobility, formation of mobile team, strengthening information collection, conducting covert operation and establishing temporary post and increasing sweeping operation, (Table 2), and by providing resources to sectors, the situation was later improved (Table 3).

Map 3 Royal Chitwan National Park RNA Post After Insurgency

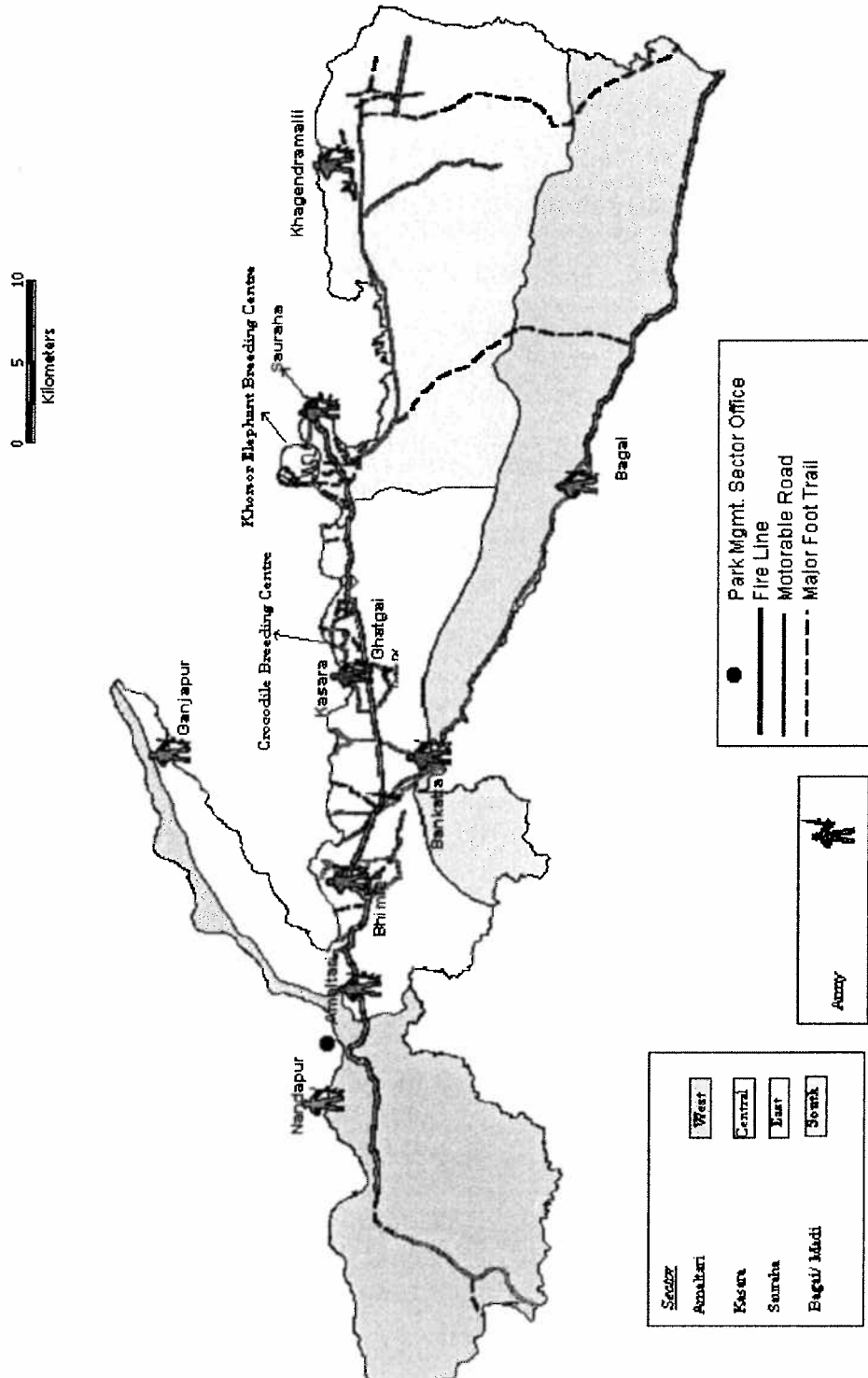


Table 2. List of poacher arrested after reorganization of APU strategy (Jan – June 2003)*.

Case	Arrested	Action taken	Remarks
Rhino poaching	21 person	Arrested	In the jail
Fish poisoning	3 person	Arrested	Released after 25 days with a cash panelty
Timber smuggling	10 person	Arrested	Released after 25 days with a cash panelty
Wildboar poaching	8 person	Arrested	Released after 25 days with a cash panelty
Chital poaching	7 person	Arrested	Released after 25 days with a cash panelty
Tiger Poaching	3 person	Arrested	In Jail

*Refer details for every year DNPWC annual reports.

Table 3. Poaching of rhino in RCNP in 2059 and beginning of 2060

Month	Poaching in 2059	Poaching in 2060
Baishak	2	6
Jestha	4	4
Ashad	2	1
Shrawn	2	0
Bhadra	2	0
Aswin	2	0
Kartik	2	0
Mangsir	4	
Poush	1	
Magh	1	
Falgun	4	
Chaitra	4	

After establishment of the park some additional driving mechanism was created to motivate park staff and local community to minimize poaching. Although, the park and RNA staff are formally assigned with the responsibility of controlling poaching. This is to say that control of poaching is some-thing that needs extra efforts other than regular duties.

The system of “reward” during the period when local Panchyat leader used to have good information on illegal activities was appropriate. Since that there is no cash incentive in advance as a guaranty for their survival, the mechanism alone cannot help to control poaching. Additional incentive apart from the salary of the park staff (APU) motivated staff members to work hard which control poaching in some PAs. But due to absence of clear-cut incentive mechanism, this also created problem among the RCNP staff those getting toppings and others without the incentive.

The operation mechanism or the strategy to control poaching depends on the strategy of poacher, available resources, threat, political will, community support and coordination between the staff and above all among the organization responsible for doing the work.

Considering all the success and failures during last 3 decade, an **Anti-poaching mechanism with staff members that regularly monitors the core area, constantly collects and updates information, keeps better coordination with park staff and RNA, and also with collaborates other agencies, and is able to generate extra fund for operation and conduct operation on time can be considered the best.** Based on the learning, analysis of last decades, and considering the present and anticipated situation, this strategy also has been developed to encourage such mechanism.

4.1.7 Strength and Weakness

Strength

- Staff willingness to work hard
- Strong team sprit in the field
- Presence of Royal Nepal Army
- Increasing cooperation of local community
- Existence of Information collection system
- Capture of more than 54 person within last 1.5 year
- Support of WWF, KMTNC, ITNC and BZDC
- Experienced staff
- Strict regulations
- Availability of elephants to operate in the adverse climatic conditions
- Extended habitat due to buffer zone management

Weaknesses

- Decreased mobility due to:
 - Inadequate vehicle (Motor, Motorcycle, bicycle) and fuel
 - Insurgency
 - Merging of RNA posts
 - Unavailability of motorboat
 - Inadequate elephants in the field
- Inadequate coordination with different stakeholders
- Inadequate resource distribution in field level
- Poor monitoring and evaluation system in the field as well as from the Department and ministry level
- The debatable incentive system
- Poor maintenance of communication system
- No staff for the buffer zone/ increased load to park staff
- Inadequate physical facilities
- Conservation system do not address grass-roots level adequately
- Inadequate training and exposure to staff members.
- Inadequate awareness among local people
- Unavailability of resources in time in the field
- No regular and sustainable source of funding.
- Poor reporting and information system

1. Issue, Strategy and programs

Issue 5.1. Anti-poaching Unit and their operation

As discussed earlier, the anti-poaching program in RCNP was conducted by the intelligence network of reward system, allocating government budget for reward, forming APUs with reward system and informants, and by providing direct incentive to the APU staff.

Considering the risk involved and the additional duties, the park staff organized in APUs were provided additional toppings. The cash incentive was found effective in many PAs (Bhatta 1995, Maskey 1998,). However, selection of APU members and the mechanism of distribution of incentive need careful attention.

Since RNA cannot move outside the Park, the park staffs have to look after the buffer zone and also collect information from the villages. The information collection plays a vital role in controlling poaching. For the activity like anti-poaching certain skill and team effort is also essential. Considering the increased poaching and current situation, the park should revise the anti-poaching operation mechanism.

Strategy 5.1.

- Revise present system of APU and strengthen capacity of the field staffs for information collection and effective operation.

The APU mechanism (and also the overall park management) should follow the sector approach of management. There are 4 sectors in RCNP, namely Kasara, Bagai-madi, Sauraha and Amaltari. Sector approach here means decentralization of power, allocation of all available resources to the sectors and from sectors to the Range level and down to the post level. Thus, ultimately this approach makes field offices more

resourceful responsible, mobile, informative and accountable. The proposed APU structure has been given in Annex 5.

Programs:

- Strengthen capacity of all the sectors by distributing all available resources (means of transportation, budget, communication set etc).
- Form a team of well motivated, dedicated and experienced staff of Park, RNA , DFO and local informer for mobile team (2, one for core area and one for BZ and outside the park) based on location and nature of work
- Emphasize Joint sweeping operations of park and RNA staffs in the park regularly by using vehicle, elephants and motorboat
- Establish monitoring mechanism to identify "Best post" for reward to boost up moral of the staff members
- Select informant in close consultation of RNA commander for park and of DFO, Police and Forest Arm Guard commander for the buffer zone and outside the park
- Provide cost of operation (broad programs for requirement is given in the Annex 6.) and reward to the staff rather than cash toppings as usual to be provided earlier
- Provide sufficient budget for monthly salary of the permanent informant, for information purchase and additional incentive to provide reward to informer for their outstanding performance.
- Allocate sufficient budget for buying information
- Strengthen capacity of the park by providing field gear and equipment (Procure and maintain field gear and equipment as per the Annex 2 and 3).
- Maintain good inventory of field gear and equipment
- Up date and get reliable information about poachers
- Keep mobile team always alert for covert operation
- Keep a separate cell in the HQ. to meet legal formalities after arrest

Issue 5.2 Mobility and Communication

Now there are very old 6 vehicles in the park (including RNA vehicle) that need regular maintenance. There are 9 motorbikes and few bicycles. The Park has lot of responsibility other than controlling poaching. Vehicles are being used based on the priority of a particular moment. The park recently received a motorboat from WWF, which is crucial for monsoon patrolling. The elephants also have to be posted in strategic locations based on situation. A repeater station and 20 radio sets also have been supported by WWF.

Control of poaching needs regular monitoring of the area. Road maintenance, vehicles, elephants, boat and radio communication have direct effect on the mobility of park/RNA staffs. Prompt Communication can contribute to effective APU operations. The park has telephone set in Sauraha and Kasara . They are not very reliable. WWF Nepal program provided 12 Motoralla handset in 1998. They were quite effective except in deep forest and during night.

Strategy 5.2. Strengthen APU operations by improving mobility and communication in and around the park

Program

- Maintain and mobilize means of transportation as per the need
- Procure additional means of transportation and communication as per the list (Annex 2 and 3)
- Maintain patrolling routes by improving the forest road, trails and river system on time
- Establish reliable communication

Issue 5.3 Coordination

Poaching of rhino is recorded in the park, in buffer zone forest, outside buffer zone and in private land. In order to minimize poaching proper coordination with concerned authorities is essential. A coordination committee was formed in 1994, but after few years the mechanism could not be sustained.

Strategy 5.3 Improve coordination with concerned government officials and conservation partners by forming a coordination committee.

Programs

- Form a coordination committee consisting of:

CDO Chitwan Chairman

Judge Chitwan Advisor

Members

Chief District Officers, Nawalparasi, Makawanpur and Parsa

RNA commander RCNP, and Bharatpur

RD, Central Regional and Western region of Forest

DFO Chitwan, Nawalparasi, Makawanpur and Parsa

SP, Chitwan, Nawalparasi, Makawanpur and Parsa

Head of Armed Forest Guard Tikauli

BZDC Chairman

Chief Warden RCNP Member Secretary

- Form a separate Park Coordination committee consisting
Chief Warden, RNA commander and organizations directly
supporting APU (TAL/WWF, BCC/KMTNC,
PCP/UNDP/ITNC/Tiger tops and Buffer Zone Development Council

- Kathmandu is a trade center for wildlife derivatives. Therefore, a central level coordination committee has been proposed for Kathmandu. The team should include DFOs of the valley, valley SP, Chief Warden Shivapuri NP, RNA commander Shivapuri led by the Deputy Director General of the Department of National Parks and Wildlife Conservation. The central level coordination should also have a mechanism of information collection and sharing to conduct APU operations in the valley.

Issue 5.4 Physical facilities

The physical facility of the park and Hattisar and RNA staff is poor. Many of the guard posts, quarters and field offices needs maintenance. Drinking water and sanitation facilities are very poor. Each guard post should be developed as APU posts (ie. with facilities like map, instruments for measurement, camera, field gears etc).

Strategy 5.4 Improve physical facilities of the park to boost up moral of the staff for conducting effective APU operations

Programs

- Provide minimum logistic facility for the park staff
- Improve vigilance by constructing fire lines/watch towers
- Construction /Renovation of posts building and other infrastructure

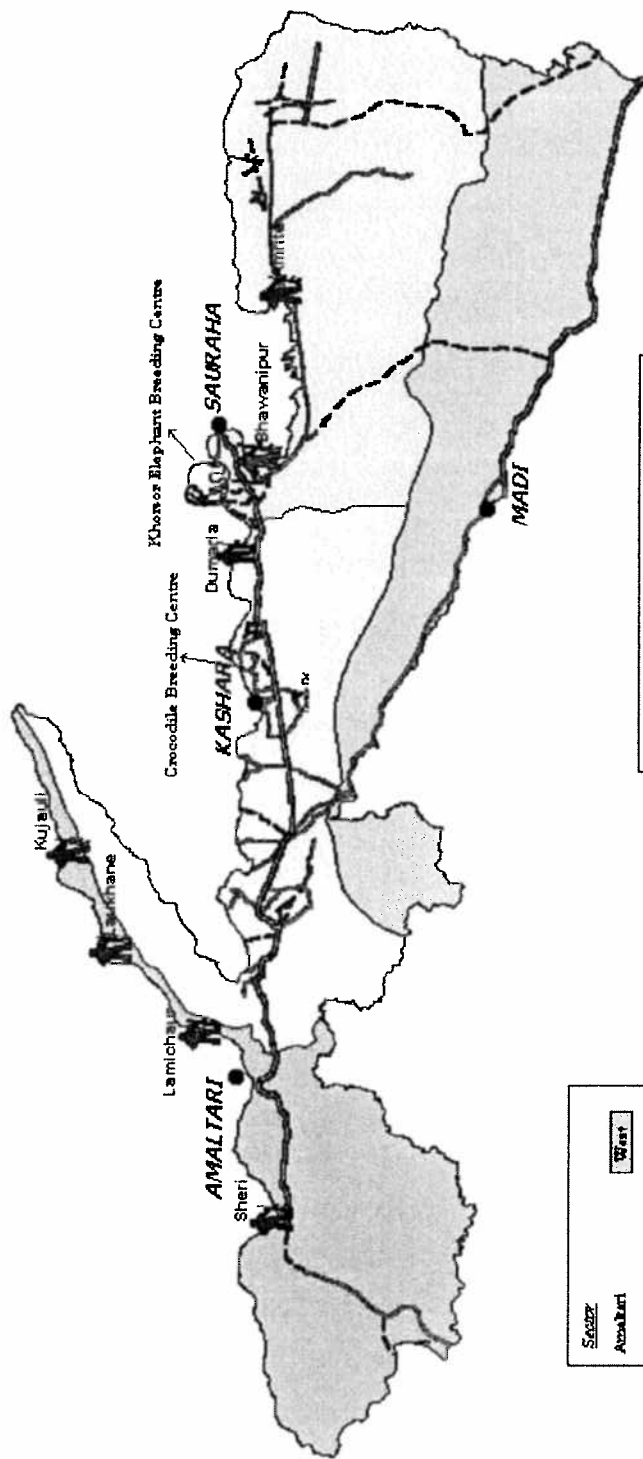
Issue 5.5 Human resource Development

Poachers adopt new techniques and change poaching methods whenever possible. However, the staffs do not get adequate training, refresh course or exposure to face the new challenges.

Map4 Royal Chitwan National Park Proposed RNA Post



0 5 10
Kilometers



Sauraha	West
Amaltari	Central
Kujali	East
Sauraha	South
Bagdi/Madi	



Proposed RNA Post

●	Park Mgmt. Sector Office
—	Fire Line
—	Motorable Road
- - -	Major Foot Trail

Strategy 5.5 Strengthen capacity of APU by training and exposure

- Organize Training for park staffs, informants regularly on information collection, follow up of the case/ released people, patrolling, legal procedure and handling a poacher)
- Use the RNA personnel, Bureau of investigation, Police and Gaida Gasti staff to train park staff on above mentioned matters
- Provide orientation course to new RNA staff

Issue 5.6 Location of Guard posts

Royal Nepali Army (RNA) plays a vital role in park protection. Their presence has helped a lot for the conservation of the biodiversity of the country. All the effort to conserve the park has to be in close coordination with RNA. Most of the Army posts constructed in the past are in core areas of the park. Some of them should set up at the border of the park. These posts were set up with the objective of the protecting the core areas in the beginning. The situation has changed now. There is a immediate need to take over the posts mentioned in the Map (Map 4). A through consultation of park warden with RNA commander is needed to relocate some of the guard posts of the core area and the guard post located in the western boarder along the Narayani River, having problem of river cutting.

Strategy 5.6 Improve surveillance and protection of the park and buffer zone

Program

- Immediately depute RNA is the post located in Map 4
- Prepare a detailed plan in close consultation with RNA commander to relocate existing guard posts
- Prepare weekly joint patrolling and sweeping operation work-plan and search programs as per needed.

Issue 5.7 Conservation education

Conservation awareness program has been conducted in and around Chitwan by park and conservation partners. There should be more focus at the grass-roots level community and ethnic groups to get their support in controlling poaching.

Strategy 5.7 Develop innovative and effective conservation education programs

Program

- Implement conservation education program to reach at the grass-roots level

By focusing local youth and children through Clubs (Youth and Eco Club) and special target groups such as Bote, Musher, Tharu etc.

- Empower and aware the Community Forest User Groups which are the main conservation partners

Issue 5. 8. Park-People Conflict and community participation

Park-people relationship has been improved after buffer zone implementation. However, in some cases, involvement of local people in poaching warrants for further improvement in the relationship.

Concept of community based APU, (Unit formed by the members of the User Group (UG) or User Committees (UC) to control illegal activities in the area, is being developed. The team is expected to actively participate in controlling poaching with the legal support from Warden or DFO and logistic support from different program/Projects or donors.

Strategy 5.8 Increase community participation to combat poaching by improving park-people relationship

Program

- Minimize crop depredation and human casualties caused by wildlife
- Continue the provision of compensation scheme developed by buffer zone for human casualties and property loss.
- Form and strengthen capacity of Community based APU
- Empower and strengthen the community forest user groups

Issue 5.9 Implementation of strategy and Sustainability of APU

This strategy has been prepared with the immediate action (actions to be taken within this fiscal year, short-term action (actions to be taken within next 2 fiscal year) and the long-term actions (actions to be taken after 3rd year and beyond 5 year). Implementation of this strategy anticipates funding from donors and conservation partners as well for few years.

For the sustainability of the APU, an endowment fund of Rs.2500000 has been established by the park and KMTNC from the conservation fund. An additional 25000 is available to add on this. Looking at the current expenditure, the APU can be sustained by raising more fund to increase the endowment of about Rs.40000000. (the annual APU program can be sustained by utilizing at least Rs.2000000. ie interest of 40000000 at the rate of 5%)

Strategy 5.9 Coordinate with all conservation partners for the implementation of the

Programs

- Coordinate available financial and human resource (by putting in single basket) to implement immediate actions.
- Prepare proposals and coordinate with donors to implement short-term actions and long-term actions
- Prepare long term sustaining mechanism (as suggested by T. M. Maskey (Maskey 1998).

Issue 5.10 Monitoring and Evaluation

Monitoring and evaluation should be done based on the guidelines given in the annex (Annex 7) and the Logical Framework attached. A monitoring and evaluation system by using simple formats (existing formats of the park and MIS) needs to be developed immediately by the Kasara sector. Monitoring of field offices by park headquarter and of Headquarter from the Department could provide inputs that can help to enhance the capacity and strengthen operations. Furthermore, monitoring of APU system regularly is necessary to cope with the changing strategy of poachers, to provide reward and punishment. A regular monitoring and evaluations system as such does not exist.

Strategy 5.10 Establish and improve Monitor and evaluation system

Program

- Develop APU monitoring formats
- Provide duty of monitoring to Mobile team and conduct through Sector approach
- Conduct staff meeting regularly
- Monitor and evaluate field posts regularly
- Establish APU data base Including:
(Detail information of different level of poachers (Shooters, followers, and helpers) mediators, and traders, analysis of different information, location, time, season etc.
Information network/intelligence, staff performance system and reporting).

6. Activities

	Immediate	Short term	Long term				
	Year 1 (Jan-July 14, 04)	Year 2 (July 15, 04 -July 14 05)	Year 3 July 15,05- July 14), 06	Year 4 July 15- 06 July 14 July 07	Year 5 15 July 07-July 08)	C o n t i n u e	
1. Revision of APU	---						
<i>Sweeping operation</i>	12	24	24	24	24	-	-
Reward for best post	12 posts	24	24	24	24	--	
Support for mobile team	2 team	2	2	2	2	-	
Information collection	Continue					-	
Procurement of field gear	2 sets	2	2	2	2	-	
2. Mobility							
Maintain of Means of transportation							
Vehicle	No 4	4	4	4	4		
Motorbike	8	10	14	17	21		
Bicycle	30	60	120	180	210		
Vehicle operation	No. 4	5	5	5	6		
Procurement of means of transportation							
Vehicle		1			1		
Motorbike	2	4	3	4			
Bicycle	30	60	60	30			
Raft		1		1			
Motorboat		1			1		
Wooden boat	1	3	3				
Deployment of elephant in strategic	--						
3. Coordination							
Formation of coordination committee	No. 1						

(Park coordination, BZ coordination)							
Park coordination committee meeting	Times 2	4	4	4	4		
BZ coordination committee meeting	Times 2	4	4	4	4		
Central Level Coordination committee	Times 2	4	4	4	4		
Maintenance of Motorola repeater			1				
Procurement of Motorola set		5			5		
Procurement of mobile telephone	Set 2	4		2	2		
Installment of telephone line	2		2		2		
Maintenance of road	Km 300	300	300	300	300		
Maintenance of bridge	No. 8	10	10	10	10		
4. Human Resource Development PA staff training	Times 2	4	4	4	4		
RNA staff orientation	Times 2	2	2	2	2		
<i>CITES training</i>	Times 1	2	2	2	2		
5. Guard post Construction of guard posts	No. 2	2	3	2	2		
Maintenance of guard posts	No. 10	12	12	14	15		
Construction of toilets	No. 3	5	5	5	5		

Construction of drinking water facilities	No. 2	2	2	2	2		
6. Conservation education program	Times 4	6	6	6	6		
7. Park People Conflict Construction of physical barriers	Km. 10		10				
Introduction of alternate crops	Sites 1	4	4	4	4	.	
8.Implementation of Strategy Partners coordination meeting	1	4	4	4	4		
9. Monitoring and evaluation	Times 1	4	4	4	4		
10. APU Data base Establishment of APU data base Update APOU data base	No. 1	1	1	1	1		

7. Budget* (Nrs. 000)

	Immediate	Short term	Long term			
	Year 1 (Jan-July 14, 04)	Year 21 (July 15 , 04 -July 14 05	Year 3 July 15, 05- July 14, 06	Year 4 July 15 06 July 14 07	Year 5 15 July 07- July 14 08	Cont inue
1. Revision of APU	---					
Sweeping operation	120	240	260	270	280	--
Reward for best post/informer/ Staff	60	120	140	150	160	--
Support for mobile team	180	360	380	400	420	-
Information collection	600	1200	1300	1400	1500	-
Procurement of field gear	50	100	100	100	100	-
2. Mobility						
Maintain of Means of transporta tion						
Vehicle	600	700	750	800	850	
Motorbike	50	100	120	140	150	
Bicycle	15	30	40	50	60	
Vehicle operation	500	600	650	700	750	
Procurement of means of transp ortation						
Vehicle		1000			1000	
Motorbike	200	400	300	400		
Bicycle	90	180	190	100		
Raft		500		500		
Motorboat					600	
Wooden boat	20	60	60			
Deployment of elephant in strategi	--					

3. Coordination	20						
Formation of coordination committee (Park coordination, BZ coordination)	20	40	40	50	50		
Park coordination committee meeting	20	40	40	50	50		
BZ coordination committee meeting	30	40	40	50	50		
Central Level Coordination committee							
Maintenance of Motorola repeater		100			100		
Procurement of Motorola set	20	80		30	30		
Procurement of mobile telephone	40	20	60				
Installment of telephone line			15		15		
Maintenance of road	900	1000	1100	1200	1300		
Maintenance of bridge	320	400	440	460	480		
4. Human Resource Development PA staff training	150	300	325	350	400		
RNA staff orientation	150	300	325	350	400		
CIRES training	100	200	200	200	200		
5. Guard post Construction of guard posts	1200	1500	1000	1000	1000		
Maintenance of guard posts	100	120	140	150	160		
Construction of toilets	90	100	120	130	140		

Construction of drinking water facilities	200	200	250	250	260		
6. Conservation education program	400	500	600	700	800		
Recruitment of BZ staffs							
7. Park People Conflict Construction of physical barriers	100		100				
Introduction of alternate crops	100	250	260	270	280		
8.Implementation of Strategy Partners coordination meeting	100	200			300		
9. Monitoring and evaluation	100	250	260	270	280		
10. APU Data base Establishment of APU data base Update APOU data base	250						
		60	70	80	90		
Total	6885	11220	10145	10755	12485		
Grand Total					51490		

- The running cost of APU is the only 'Revise APU' Budget head. But for effective and sustainable APU activities that have direct link with controlling poaching has been presented here.

8. Logical Framework

	Objectively variable Indicator	Means of Verification	Assumption
<p>Goal</p> <p>Poaching of endangered Rhinoceros and tigers including wild flora and fauna combat forever in RCNP</p>	<ul style="list-style-type: none"> Decreased poaching and illegal extraction of forest products Increased no. Of endangered species 	<ul style="list-style-type: none"> census record Park Records Park/DNPWC Annual report 	
<p>Purpose</p> <p>Efficient AP operation in RCNP conducted effectively</p>	<ul style="list-style-type: none"> Increased no. of arrested person in different offences Increased no. Sweeping operation and regular park patrolling <p>Decreased in illegal activities in the park</p>	<p>Park record</p> <p>Park/DNPWC Annual report</p>	

Output			
RCNP equipped to conduct AP operation	<ul style="list-style-type: none"> Increased mobility Improved infrastructure Improved communication Decreased poaching incidences 	Patrolling reports Monitoring Register Field visit Office inventory	
Capacity of RCNP staff, RNA and BZ institutions strengthened	<ul style="list-style-type: none"> Staffs can analyze about poaching routes/ poachers Increased Involvement of local community in Antipoaching efforts Effective APU operation 	Interview Park records Meeting record from minuting	
Peoples awareness enhanced	<ul style="list-style-type: none"> APU in Buffer Zone UG/UC established 	Record of wildlife offences	
Coordination among concerning agencies enhanced	<ul style="list-style-type: none"> Increased information from local community Better understanding of the problem in concerning agencies Involvement of other agencies in combat poaching 	UG/UC records	
Informers Networking effectively achieved	<ul style="list-style-type: none"> Decreased involvement of local people in poaching Increase in information Reliable information 	Park APU report	
APU Database established		APU data base	
established	<ul style="list-style-type: none"> Well established APU database 	Park Data base	

Sustainable APU mechanism Established	Improved APU strategy Self sustained APU mechanism	APU report The Strategy	
Activities			
Revision of APU	APU structure No. of operation conducted No. of the people rewarded	Park record APU reports APU database	
Sweeping operation			
Reward for best post	No./Times information collected		
Support for mobile team			
Information collection			
Procurement of field gear	No. and types of equipment Procured	Park inventory	
Mobility			
Maintain of Means of transportation			
Vehicle			
Motorbike	No. of means of transportation	Park records	
Bicycle	Maintained		
Vehicle operation	No. of operation conducted by vehicle	APU report/Log book	

Procurement of means of Transportation Vehicle Motorbike Bicycle Raft Motorboat Wooden boat	No. of means of transportation Maintained	Park record/field visit
Deployment of elephant in Strategic locations	No.of location elephant deployed	
Coordination Formation of coordination committee (Park coordination, BZ coordinate ion) Park coordination committee meeting BZ coordination committee meeting Central Level Coordination committee	No. of meeting held	Meeting minutes
Maintenance of Motorola repeater	No and Types of communication Sets Km. of road maintained Constructed	Park inventory Park visit
Procurement of Motorola set		
Procurement of mobile telephone		
Installment of telephone line		
Maintenance of road		
Maintenance of bridge		
Guard post Construction of guard posts	No. of guard post maintained No. of toilet constructed/ maintained	
Maintenance of guard posts		
Constructrtion of toilets		

Construction of drinking water facilities	No. of tube well installed	Park inventory Field visit
Human Resource Development PA staff training	No. of drinking facility improved	
RNA staff orientation	No. of	Park record
CIRES training	training/workshop/orientation organized	
Conservation education program	No. of programs conducted	
Recruitment of BZ staffs	No. of staff hired	
Park People Conflict	No./Km. of physical barriers constructed	Park/UG/UC records/reports
Construction of physical barriers	Types/ ha.of land cultivated	
Introduction of alternate crops	No. of meeting	Field visit
Implementation of Strategy		
Partners coordination meeting		

Monitoring and evaluation	Park information about poachers	HH survey
	In	Park records
	Public support to control poaching increased	Interview
Establishment of APU data base	Community based APU established	Park record
Update APU data base	Improved Park-people relationship	Park database
		Park reports
	Detail information about wildlife crime, poacher Available	
	No. of coordination meeting	
Establishment of APU sustaining Mechanism	Rs deposited in APU endowment fund	Park record
		Bank report

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Annex 1. Poaching cases (other than rhino) recorded in ECNP HQ.

Year	Case*	Arrested
2055	1 Poaching of Python	2 person
2056	1 Wild boar	3
2057	1 Sambar	4
	1 Leopard	2
	2 Timber	13
2058	1 Leopard	3
	6 Timber	38
2059	1 Spotted Deer	5
	4 Timber	8

* Cases of grass cutting and firewood many in different posts but not recorded in HQ.

Annex 2. List of field gear

Tents

Sleeping bag

Rain coat

Water bottle

Back-pack

Khukuri

Torch- light

Search light

Batteries

First aid kit

Utensils

Annex 3. List of equipments

4.HD Pick up vehicle (double cabin)

Motorbike

Bicycles

Motorola radio sets

Mobile phone

Telephone line

Night vision

Rubber boat

Wooden Boat

Motor boat

GPS

Lab tap computer with printer for reporting and database

Movie camera for taking different information regarding poaching, poachers and other activities

Digital Camera

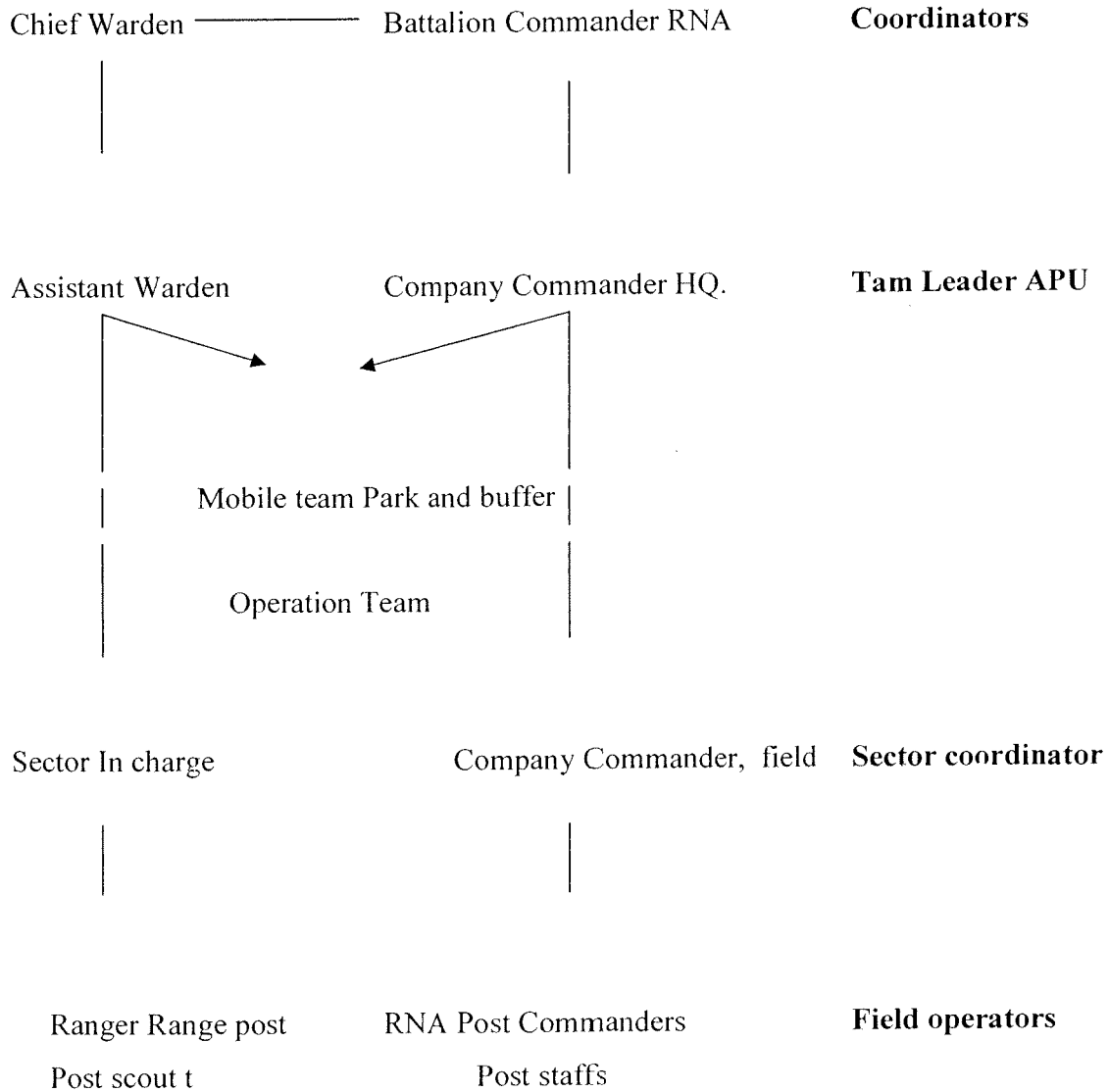
Annex 4. APU Structure

APU Co-ordination team in HQ.	Chief Warden	Coordinator	1
	Assistant Warden	Team Leader	1
	Ranger	Assistant	1
	Admin Staff	Assistant	1

APU team in the Field

Leader	Ranger	1
Member	Senior Game scout	1
„	Game scout	4
„	Local Informer	1

Annex 5. Proposed APU Structure



Note: There will be **informants** at each level, number based on the situation

Heads of each ladder should have **coordination with DFO, BZ, Police and conservation partners**

Annex 6. Finance

The APU cost kept in a basket fund to be used for:

- Direct cost of operation
- Direct cost of sweeping
- Monthly Incentive for informers
- Incentive for information purchase
- Reward for staff/community organizations or individual
- Cost of operation of transportation/communication equipments

Annex 7. Monitoring and Evaluation

- APU patrol registers should be kept in HQ, Sectors, and in every post
- BZ Community Forest User Committee should be requested to keep similar register for M&E of community forests and BZ area
- Field evaluation should be conducted twice a month by conducting field visits by immediate supervisors
- Individual record of staff should be kept by park and RNA for reward and punishment
- Six monthly and annual evaluation should be conducted by forming a team
- APU database should be maintained in HQ.
- DNPWC monitoring and evaluation report should also be requested to prepare final evaluation mentioned above
- Comments from visiting Conservation partners should be maintained and will be taken in to consideration during M&E
- BZDC and CFUCs should be requested for Annual evaluation
- MIS formats of DNPWC and additional formats developed by park should be used for monitoring and evaluation